

Im Rahmen der öffentlichen Vortragsreihe

Economic Theory and Policy

der Forschungsgruppe Ökonomie
am Institut für Stochastik und Wirtschaftsmathematik der TU Wien

hält

Univ.-Doz. Mag. DI Dr. Erhard Glötzl

einen Vortrag
mit dem Titel

Why and How to overcome General Equilibrium Theory

Abstract: *For more than 100 years economists have tried to describe economics in analogy to physics, more precisely to classical Newtonian mechanics. The development of the Neoclassical General Equilibrium Theory has to be understood as the result of these efforts. But there are many reasons why General Equilibrium Theory is inadequate: 1. No true dynamics. 2. The assumption of the existence of utility functions and the possibility to aggregate them to one "Master" utility function. 3. The impossibility to describe situations as in "Prisoners Dilemma", where individual optimization does not lead to a collective optimum. This paper aims at overcoming these problems. It illustrates how not only equilibria of economic systems, but also the general dynamics of these systems can be described in close analogy to classical mechanics.*

To this end, this paper makes the case for an approach based on the concept of constrained dynamics, analyzing the economy from the perspective of "economic forces" and "economic power" based on the concept of physical forces and the reciprocal value of mass. Realizing that accounting identities constitute constraints in the economy, the concept of constrained dynamics, which is part of the standard models of classical mechanics, can be applied to economics.

Such a framework allows understanding both Keynesian and neoclassical models as special cases of NCD-Models in which the power relationships with respect to certain variables are one-sided. As mixed power relationships occur more frequently in reality than purely one-sided power constellations, NCD-models are better suited to describe the economy than standard Keynesian or Neoclassic models.

A NCD-model can be understood as "Time Continuous", "Stock Flow Consistent", "Agent Based Model", where the behavior of the agents is described with a general differential equation for every agent. In the special case where the differential equations can be described with utility functions, the behavior of every agent can be understood as an individual optimization strategy. He thus seeks to maximize his utility. However, while the core assumption of neoclassical models is that due to the "invisible hand" such egoistic individual behavior leads to an optimal result for all agents, reality is often defined by "Prisoners Dilemma" situations, in which individual optimization leads to the worst outcome for all. One advantage of NCD-models over standard models is that they are able to describe also such situations, where an individual optimization strategy does not lead to an optimum result for all agents. This will be illustrated in a simple example.

In conclusion, the big merit and effort of Newton was, to set the right terms (physical force, inert mass, change of velocity) into the right relation. Analogously the appropriate terms of economics are force, economic power and change of flow variables. NCD-Models allow setting them into the right relation to each other.

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